



The 5th Agriculture Green Development Online Symposium

Sino-Dutch AGD project semi-annual meeting

**第五届农业绿色发展国际研讨会
暨中荷 AGD 交叉创新型人才培养项目季度会议**

Location: Online/Teams (地点：线上)

12th-14th January 2022 (2022 年 1 月 12-14 号)

Organizers (主办方) : China Agricultural University (中国农业大学)

Wageningen University & Research (瓦赫宁根大学)

Hainan University (海南大学)

Academic support: Frontiers of Agricultural Science and Engineering

学术支持：中国工程院《农业科学与工程前沿》



Day 1 12 January 2022			
Plenary programme: <u>Room 1</u>			Chair : Prof. Carolien Kroeze
8:30-8:40 (Dutch) 15:30-15:40 (China)	Opening	Prof. Fusuo Zhang	10m
8:40-8:55 (Dutch) 15:40-15:55 (China)	Keynote 1 “Introduction to the Agricultural Green Development Program”	Dr. Yong Hou	15m
8:55-9:25 (Dutch) 15:55-16:25 (China)	Keynote 2 ‘The need for integrated studies on agricultural green development”	Prof. Martin van Ittersum	30m
Break			20m
PhD candidates’ seminar Grade-2019			
9:45-11:05 (Dutch) 16:45-18:05 (China)	4 PhD candidates (Yanan Li, Fanlei Meng, Zhengyu Wang, Zhan Xu)	Each 20 minutes, 15 min presentation & 5 mins discussion	80m
Day 2 13 January 2022			
2 parallel programmes: <u>Rooms 1 and 2</u>			
<u>Room 1: Plant + Nutritious food</u>			
Co-Chairs : Prof. Xuexian Li & Prof Wenfeng Cong			
Green plant production			
8:30-8:40 (Dutch) 15:30-15:40 (China)	Opening		
8:40-9:10 (Dutch) 15:40-16:10 (China)	Keynote 3 “The role of plant traits, plant diversity, soil biodiversity and soil functioning in agricultural green development”	Prof. Gerlinde De Deyn	30m
9:10-10:10 (Dutch) 16:10-17:10 (China)	Project presentations part 1 6 PhD candidates, each 10 minutes (8 mins pitches & 2 mins discussion)	Grade-2019 PhD candidates	60m
Break			20m

Green and nutritious food provision & governance			
10:30-11:00 (Dutch) 17:30-18:00 (China)	Keynote 4 “Socio-technical innovation and transformation towards sustainable food production”	Prof. Cees Leeuwis	30m
11:00-11:40 (Dutch) 18:00-18:40 (China)	Project presentations part 2 4 PhD candidates, each 10 minutes (8 mins pitches & 2 mins discussion)	Grade-2019 PhD candidates	40m
Room 2: Animal + Environment			
<i>Co-Chairs : Dr. Yong Hou & Dr. Wen Xu</i>			
Green animal production & coupling animal and plant production			
8:30-8:40 (Dutch) 15:30-15:40 (China)	Opening		
8:40-9:10 (Dutch) 15:40-16:10 (China)	Keynote 5 “Animal production as a source of pathogens in surface waters”	Dr. Nynke Hofstra	30m
9:10-10:10 (Dutch) 16:10-17:10 (China)	Project presentations part 3 6 PhD candidates, each 10 minutes (8 mins pitches & 2 mins discussion)	Grade-2019 PhD candidates	60m
Break			20m
Green ecological environment			
10:30-11:00 (Dutch) 17:30-18:00 (China)	Keynote 6 “Environmental technologies for waste water treatment in food production”	Dr. Annemiek ter Heijne	30m
11:00-11:50 (Dutch) 18:00-18:50 (China)	Project presentations part 4 5 PhD candidates, each 10 minutes (8 mins pitches & 2 mins discussion)	Grade-2019 PhD candidates	50m

Day 3 14 January 2022			
<i>2 parallel programmes – followed by plenary keynotes and closure</i>			
<i>Parallel programme: <u>Rooms 1 and 2</u></i>			
<i>Plenary and closure: <u>Room 1</u></i>			
<u>Room 1: Plant + Nutritious food</u>			
<i>Chair : Dr. Wopke van der Werf</i>			
Green plant production			
8:30-8:40 (Dutch) 15:30-15:40 (China)	Opening		
8:40-9:40 (Dutch) 15:40-16:40 (China)	Project presentations part 5 10 PhD candidates, each 5 minutes, 10 mins discussion in the end	Grade-2020 PhD candidates	60m
Break			20m
Green and nutritious food provision & governance			
10:00-10:50 (Dutch) 17:00-17:50 (China)	Project presentations part 6 8 PhD candidates, each 5 minutes, 10 mins discussion in the end	Grade-2020 PhD candidates	50m
Break			10m
<u>Room 2: Animal + Environment</u>			
<i>Chair : Prof. Nico Heerink</i>			
Green ecological environment			
8:30-8:40 (Dutch) 15:30-15:40 (China)	Opening		
8:40-9:10 (Dutch) 15:40-16:10 (China)	Project presentations part 7 3 PhD candidates, each 10 minutes (8 mins pitches & 2 mins discussion)	Grade-2019 PhD candidates	30m
9:10-9:40 (Dutch) 16:10-16:40 (China)	Project presentations part 8 4 PhD candidates, each 5 minutes, 10 mins discussion in the end	Grade-2020 PhD candidates	30m

Break			20m
Green animal production & coupling animal and plant production			
10:00-10:45 (Dutch) 17:00-17:45 (China)	Project presentations part 9 7 PhD candidates, each 5 minutes, 10 mins discussion in the end	Grade-2020 PhD candidates	45m
Break			15m
Room 1: Plenary			
Chair: Prof. Carolien Kroeze			
11:00-11:30 (Dutch) 18:00-18:30 (China)	Keynote 7 “Plant-microbiome interactions and agricultural green development”	Prof. Marcel van der Heijden	30m
11:30-12:00 (Dutch) 18:30-19:00 (China)	Keynote 8 “Future challenges in nutrient management”	Prof. Achim Dobermann	30m
12:00-12:30 (Dutch) 19:00-19:30 (China)	Closure and outlook to the future	Prof. Fusuo Zhang	30m

Appendix 1: Project presentations by PhD candidates

Date	Time	Reporters	Title
12th Jan.	9:45-11:05 (Dutch) 16:45-18:05 (China)	Yanan Li	Multiple pollutant assessment of river quality and food production
		Fanlei Meng	Nitrogen losses from food production in Quzhou and its mitigation potential
		Zhengyu Wang	Microbiota-mediated detrimental effect of dietary fiber deprivation in pigs and evaluation of dietary fiber components
		Zhan Xu	The impact of business farm on the sustainability of crop production activities
13th Jan.	9:10-10:10 (Dutch) 16:10-17:10 (China)	Project presentations part 1	
		Mengshuai Liu	Filling gaps in the roles of soil-borne pathogens for the negative feedbacks
		Jie Lu	Exploring maize shoot and root interactions in relation to nitrogen availability: a 3D modelling approach

	Yujie Yang	Integrate models to investigate G×E×M to identify high-NUE and high-yield maize germplasm in China
	Lu Liu	Closing nutrition gap through optimizing crop production and nutrients management in North China Plain
	Zhengyuan Liang	Pursuing multi-dimensional sustainability of crop production through learning from positive deviants: a case study in the North China Plain
	Jiali Cheng	Evaluating ecosystem services supply and demand of agricultural landscapes: a case study in Quzhou
Project presentations part 2		
11:00-11:40 (Dutch) 18:00-18:40 (China)	Jinghan Li	Promoting sustainable nitrogen fertilizers use by system innovation
	Zhiwei Yu	Building farmers' belief in technology diffusion
	Hongyi Cai	Achieving healthy, low-cost, and environmentally sustainable diets in China
	Taian Deng	Exploring the reasons for insufficient vegetable intake among rural residents in China: based on income, prices, habits formation and nutrition education
Project presentations part 3		
9:10-10:10 (Dutch) 16:10-17:10 (China)	Shiyi Zhang	Protein digestion kinetics and effect of fibres on protein digestion in pigs
	Hanlu Zhang	Fermentation characteristics of different unconventional protein sources in large intestine of growing pigs
	Yaowen Zhang	Fermentation kinetics of resistant starch and its interaction with protein in large intestine of growing pigs
	Guichao Dai	How can China increase its domestic feed production for its increasing livestock population?
	Tao Zhang	Synthetic fertilizers use can be halved in China's intensive livestock areas
	Hao Ye	The effects of protein levels and kinetics in lactating diet on sow body loss, reproduction and litter performance
Project presentations part 4		
11:00-11:50 (Dutch) 18:00-18:50 (China)	Qi Zhang	Agricultural green development pathway for food and clean water
	Muying Duan	Transition towards sustainable agriculture groundwater use

		Hongyu Mu	Occurrence, distribution and the ecological risks of pesticides in soil: A case study in the North China Plain
		Zhilong He	Reduced nitrogen losses and greenhouse gas emissions in the circular cropping-poultry production systems in Quzhou county, North China Plain
		DongFang Zheng	Optimizing P management strategies based on soil P sorption-desorption and rhizosphere processes
14th Jan.	Project presentations part 5		
	8:40-9:40 (Dutch) 15:40-16:40 (China)	Zhaoqi Bin	Learning from nature: manipulation of plant functional trait-driven plant-soil feedback towards agroecosystem optimization
		Yizan Li	Building a Hospital for Soil Health Diagnosis and Treatment: a Modelling Approach
		Laiquan Luo	Digital twin driven design and control for a safe and versatile soft robotic gripper
		Yuxiang Wang	Assessing the impact of illumination on vegetation indices derived from low-altitude RGB aerial images and evaluation of different illumination compensation methods
		Yalin Liu	Intercropping saves land and nitrogen fertilizer without decreasing harvest index and N harvest compared to monoculture: a meta-analysis
		Ruotong Zhao	Mechanisms of mycorrhizal fungi-denitrifiers interaction to reduce N ₂ O emissions
		Jiyu Jia	The mechanisms of soil microbiomes driving ecosystem multifunctionality
		Bo Wang	Study on suitable water planting of diversified planting system in North China Plain Based on SWAP model under climate changing
		Bowen Ma	Evaluation and simulation of soil ecosystem services of diversified cropping systems in the North China Plain
		Yanjie Chen	Quantifying and enhancing farmland ecosystem service for agricultural green development
	Project presentations part 6		
	10:00-10:50 (Dutch) 17:00-17:50 (China)	Zhiyao Chang	3D Evaluation of the China's Sustainable Diets And Link Diets to the Food-related Health Risks
Junhan Zhang		Greenprint: Multi-model Decision Support to Market-driven Green Food Supply Chain Networks	

	Yujun Wei	GreenFoodUp: Upcycling fruit and vegetable surpluses and side-streams in China- priorities, emerging technologies and operationalization
	Xiaodan Li	Smallholder farmers' engagement in participatory programs and sustainability practices--insights from China's Science and Technology Backyards
	Ruijin Luo	Economic Benefits, Environmental Impact and Optimization Strategy of the Green Navel Orange Supply Chain
	Chenqiang Qin	Study on extraction and properties of oleosomes from tomato seeds
	Yi Zhang	Influence of carbon sink effect of green food on supply chain in China
	Xiaoxia Guo	Optimization and realization of green planting technology system for main crops based on multi-objective coordination
Project presentations part 7		
8:40-9:10 (Dutch) 15:40-16:10 (China)	Zhibiao Wei	From waste to crop: closing N, C and water cycles in Quzhou County
	Luncheng You	Large scale impacts of improved management approaches on nitrogen cycling and nitrogen losses from Chinese croplands
	Yu Gu	Combined field and model based approaches for large scale sustainable phosphorus management
Project presentations part 8		
9:10-9:40 (Dutch) 16:10-16:40 (China)	Donghao Xu	Large scale impacts of management approaches on soil acidification and cadmium mobilization of Chinese croplands
	Sijie Feng	Solutions for Air and Water Pollution for Agriculture Green Development in China
	Haorang Li	Consumer perception of sustainable food and labels: a perspective from individual experience and generational gap
	Juhui Chen	The impact of user-friendly labels on pesticide reduction
Project presentations part 9		
10:00-10:45 (Dutch) 17:00-17:45 (China)	Weitong Long	Integrating crop and livestock systems in China: A social welfare analysis
	Hao Liu	Forage quality in intercropping
	Zhenpeng Hu	Pig toilet as a solution for sustainable pig farming, a behavioural perspective
	Fei Xie	An automatic training toilet system for pigs
	Rui Shi	Predicting individual nitrogen use efficiency for dairy cows

		Dongdong Lu	Effects of dietary fibers with different physicochemical properties on constipation in sows during late pregnancy
		Yujuan He	Legacy effects of mixed grassland on follow-on crops under Phosphorus fertilization